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AUTHOR Bozza, Leonard: Pollack, Eileen
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ABSTRACT

This report examines occupational education in a New York City Borough with the purpose of providing an informational base for effective planning in this area. The study reviews population trends in Brooklyn in general and in its high school population in particular. The types of occupational education available in the high schools of the Borough are delineated. Employment opportunities are also examined with specific reference to the availability and student use of matching training programs in the high schools. Included are tables indicating ethnic distribution of the population and student enrollments in different types of occupational education programs. (Author/WP)

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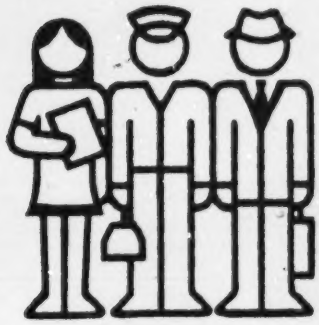

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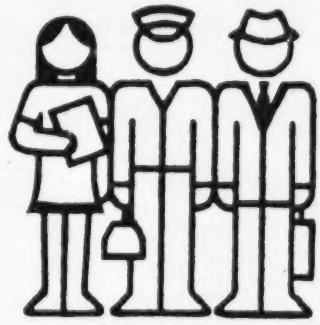

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CENTER FOR
CAREER AND OCCUPATIONAL EDUCATION

Board of Education of the City of New York
Division of Educational Curriculum and Instruction

A SURVEY OF
THE OCCUPATIONAL EDUCATION DELIVERY SYSTEM
in the
BOROUGH OF BROOKLYN

May, 1979

Vera L. Hannenberg, *Project Director*
Richard Halperin, *Unit Coordinator*
Leonard Bozza, *Asst. Coord. of Planning*
Eileen Pollack, *Statistical Analyst*

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Acknowledgements

The surveys of each of the five boroughs were undertaken in recognition of the distinctiveness and individuality of the populations, the geography, and labor market needs of each of the boroughs. The size and diversity of New York City is such that a borough-by-borough data base is a necessity for the development of City-wide needs base and ultimately a Regional Plan.

The Borough surveys were initiated and implemented by the Unit for Planning, Evaluation and Research. Major responsibility for the development of the five documents was borne by Leonard Bozza and Eileen Pollack.

Other members of the Unit who contributed to the data collection and interpretation were Richard Halperin, Mildred Davison and William Spier. Ms. Mary Bay was responsible for the typing and production of the documents. She was assisted by Ms. Bessie Jones.

Vera L. Hannenberg, Project Director
Planning, Evaluation & Research Unit

George R. Quarles, Deputy Administrator
Center for Career and Occupational Education

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INTRODUCTION

This survey of the occupational education delivery services represents an initial step in the development of a Borough-wide plan. The surveys of the boroughs,will provide a solid informational base for effective borough-wide and city-wide planning to insure networks of updated and cost effective career and occupational education services.

Elements which have been included in this study include: a review of population trends in the entire Borough and in the High School population in particular for the period 1976 to present; population flow, (migration and out migration) special geographic features; transportation facilities; labor market information specific to the borough; assessments of the scope and nature of local business. An in-depth study of present facility and training resources has been made. This study provides a basis for assessing the potential training resources within the present school structure, as well as a detailed outline of the present scope of services.

Travel patterns have been studied as a bases for expanding training opportunities to students through more intensive use of quality facilities in the Borough.

Overall, an attempt has been made to assess the adequacy of present training resources, in relation to student and labor market needs. While a precise correspondence between training output and job market openings is neither practical, nor always reliable, a serious attempt has been made to perceive training need within the best available job market information.

GENERAL POPULATION TRENDS - BOROUGH OF BROOKLYN

As of 1975, there were 2,467,000 people residing in the borough of Brooklyn. The population has decreased by 271,000 people since 1950; and although the Black population has increased threefold since that time and made up for the loss of white residents, from 1970 to 1975 over 30,000 Black residents have located elsewhere. The population of Brooklyn is represented by many ethnic groups, with Italians, Puerto Ricans, Irish, Germans, Poles, Russians and Greeks, comprising the largest segment of the ethnic population[1].

TABLE I: ETHNIC DISTRIBUTION of the POPULATION of BROOKLYN--1950-1970

A) BROOKLYN POPULATION (1950, 1960, 1970)

Year	Minority	%	"Other"	%	TOTAL
1950	250,869	9.16	2,487,306	90.84	2,738,175
1960	545,364	20.76	2,081,955	79.24	2,627,319
1970	932,017	35.82	1,669,995	64.18	2,602,012

B) PERCENT CHANGE IN BROOKLYN

	Minority	"Other"	TOTAL
1950-1970	+271.52	-32.86	-4.97

TABLE II: ETHNIC DISTRIBUTION of the CITYWIDE POPULATION--1950-1970

A) CITYWIDE POPULATION (1950, 1960, 1970)

Year	Minority	%	"Other"	%	TOTAL
1950	997,731	12.64	6,894,226	87.36	7,891,957
1960	1,682,901	21.63	6,099,083	78.37	7,781,984
1970	2,517,562	31.89	5,377,299	68.11	7,894,861

B) PERCENT CHANGE CITYWIDE

	Minority	"Other"	TOTAL
1950-1970	+152.33	-22.00	+0.04

TOPOGRAPHY AND DEVELOPMENT

Brooklyn is a very attractive area in the Northeast in which to locate industrial facilities in view of the deep water ports, extensive motor and rail networds, flatlands and canals. The Borough has four major industrial districts which employ approximately 100,000 workers: Greenpoint, Williamsburg and the Newtown Creek area in the northern section of the Borough; the Bush Terminal area along the waterfront in Sunset Park; South Brooklyn-Gowanus, which includes most of Brooklyn's port facilities; and, the Flatlands-Spring Creek area in the eastern part of the Borough near East New York. Special characteristics for each district are detailed below:

Greenpoint, Williamsburg, Newtown Creek

With excellent transportation access, this district houses major Brooklyn employers such as Amstar, Pfizer, and Eaton Allen. The district contains numerous loft facilities, not useful to major industrial undertakings, but advantageous for less capital intensive investment businesses, such as garment manufacture, metal working and nondurable goods production. Redevelopment strategies include rehabilitation of district infrastructure; development of in-place industrial parts; and the recycling of abandoned breweries and the Trunz Meat facility.

Bush Terminal

Bush Terminal, located along the waterfront in Sunset Park, is the Borough's major port facility, with several rail lines tied into the area. The terminal facility itself is an example of a "vertical" industrial part, containing six million square feet of industrial loft floor space. The area ranks second in Brooklyn in number of blue collar workers employed, 26,000. Located here is the Brooklyn Cooperative Meat Distribution Center, which when completed will create 900 new job openings. Further development is underway in the Brooklyn Army Terminal, where deep water ports and shipping terminals are owned and leased by the Federal Government. Redevelopment strategies for the 1980's include support of the use of New York Rail Preservation bond monies, improved traffic circulation, and the seeking of Federal assistance through Urban Development Action Grants.

Downtown Brooklyn, South Brooklyn-Gowanus

This industrial district is a major shipping area and is the location of a number of Brooklyn's major employers, such as the Tom shipyards, Sucrest Sugar, and extends along the waterfront into the Red Hook Industrial Renewal area. The district employs approximately 20,000 blue collar workers. Major development efforts include the Red Hook Urban Renewal Plan, designed to redevelop the 230 acres along Buttermilk Channel, with new shipping contained facilities, modernization of piers, and the building of housing and waterfront parts. If financed, the project could employ 2,500; and commercial revitalization through the Fulton Street Pedestrian Mall Project, and the Albee Square climate controlled retail shopping center.

Flatlands, Spring Creek Area

The Flatlands industrial area, lies south of Brownsville, along the rail lines, and is well developed. Major industry in the district includes the Brooklyn Terminal Market, Key Food Warehousing, and the Flatlands Industrial Park. The physical structures are quite modern and industry employs about 14,000 blue collar workers. Spring Creek offers the major opportunity for new capital intensive industrial development in Brooklyn. The City has had plans for multi-use development of the site, calling for the following uses of the 400 vacant acres bordering Queens: residential housing, light manufacture, heavy industry and a research and development park. By 1977, the City had invested $28 million in the Spring Creek Renewal area.

BROOKLYN PUBLIC HIGH SCHOOL POPULATION

Since 1976, the overall population of the Brooklyn public high schools has decreased by 1.99% from 109,668 to 107,484 students. Population in the academic/comprehensive high schools decreased by 2.67% while the vocational high school population increased by only 0.27%.

In 1976, the vocational high school enrollment accounted for 12.21% of the total Brooklyn high school population; by 1978 it accounted for 12.49% of the total.

The minority population in the 26 academic/comprehensive high schools increased from 62.98% in 1976 to 65.85% in 1978; an increase of 2.87%. At present, there are 14 high schools that have a minority population greater than 50%.

The minority population in the 7 Brooklyn vocational high schools has increased from 80.43% in 1976 to 82.55% in 1978; an increase of 2.12%. Four of these schools have a minority population of more than 96%.

BROOKLYN PRIVATE HIGH SCHOOLS

There are 37 private schools in the borough of Brooklyn which served a total of 18,311 students in grades 9 through 12 in the 1978-79 school year. This population if added to the 104,149 enrolled in the academic/comprehensive and vocational high schools and the 3,335 in the independent alternative and special schools, represents 14.56% of all students attending Brooklyn high schools.

TABLE III A

ETHNIC DISTRIBUTION IN BROOKLYN HIGH SCHOOLS
October 1976

	Minority	%	Other	%	Total
Lafayette	1,289	31.86	2,757	68.14	4,046
Midwood	1,007	35.61	1,821	64.39	2,828
A. Lincoln	1,241	38.37	1,993	61.63	3,234
S. Tilden	1,928	63.71	1,098	36.29	3,026
Franklin K. Lane	2,134	61.11	1,358	38.89	3,492
James Madison	944	33.39	1,883	66.61	2,827
Brooklyn Tech	3,424	63.86	1,938	36.14	5,362
T. Jefferson	4,151	99.90	4	0.10	4,155
Prospect Heights	2,900	99.69	9	0.31	2,909
New Utrecht	694	21.07	2,600	78.93	3,294
Boys & Girls	4,433	99.95	2	0.05	4,435
John Jay	3,530	67.86	1,672	32.14	5,202
Erasmus Hall	4,393	92.31	366	7.69	4,759
George Wingate	3,444	99.51	17	0.49	3,461
Eastern District	3,195	98.98	33	1.02	3,228
Bushwick	3,254	96.70	111	3.30	3,365
Bay Ridge	2,621	93.71	176	6.29	2,797
Ft. Hamilton	1,253	31.18	2,766	68.82	4,019
Sheepshead Bay	1,122	33.31	2,246	66.69	3,368
Canarsie	1,363	42.40	1,852	57.60	3,215
F.D. Roosevelt	1,539	34.36	2,940	65.64	4,479
John Dewey	1,223	36.93	2,089	63.07	3,312
South Shore	2,296	43.06	3,036	56.94	5,332
Edward R. Murrow	763	35.42	1,391	64.58	2,154
Clara Barton	2,258	98.05	45	1.95	2,303
Sarah J. Hale	2,303	88.41	302	11.59	2,605
Total Acad./Comp.	58,702	62.98	34,505	37.02	93,207
Westinghouse	2,027	96.71	69	3.29	2,096
Automotive	1,292	78.73	349	21.27	1,641
East New York	1,603	93.25	116	6.75	1,719
Wm. E. Grady	497	23.40	1,627	76.60	2,124
A. Hamilton	1,312	99.02	13	0.98	1,325
Eli Whitney	2,342	88.38	308	11.62	2,650
Wm. H. Maxwell	1,699	92.44	139	7.56	1,838
Total Voc.	10,772	80.43	2,621	19.57	13,393
Ind. Alt.	2,566	85.70	428	14.30	2,994
Special Schools	74	100.00	0	0	74
GRAND TOTAL	72,114	65.76	37,554	34.24	109,668

TABLE III B

ETHNIC DISTRIBUTION IN BROOKLYN HIGH SCHOOLS
OCTOBER 1977

	Minority	%	Other	%	Total
Lafayette	1,161	32.29	2,435	67.71	3,596
Midwood	1,132	40.62	1,655	59.38	2,787
A. Lincoln	1,178	38.89	1,851	61.11	3,029
Samuel J. Tilden	1,994	69.26	885	30.74	2,879
Franklin K. Lane	2,294	55.00	1,877	45.00	4,171
James Madison	981	32.70	2,019	67.30	3,000
Brooklyn Tech.	4,174	70.82	1,720	29.18	5,894
T. Jefferson	4,025	100.00	0	0	4,025
Prospect Heights	2,902	99.79	6	0.21	2,908
New Utrecht	612	20.73	2,340	79.27	2,952
Boys and Girls	5,358	99.98	1	0.02	5,359
John Jay	3,366	71.03	1,373	28.97	4,739
Erasmus Hall	4,341	95.60	200	4.40	4,541
George Wingate	3,225	99.81	6	0.19	3,231
Eastern District	3,161	98.97	33	1.03	3,194
Bushwick	3,114	97.31	86	2.69	3,200
Bay Ridge	2,267	94.77	125	5.23	2,392
Ft. Hamilton	1,286	33.96	2,501	66.04	3,787
Sheepshead Bay	1,113	34.36	2,126	65.64	3,239
Canarsie	1,098	38.11	1,783	61.89	2,881
F.D. Roosevelt	1,524	37.76	2,512	62.24	4,036
John Dewey	1,312	38.44	2,101	61.56	3,413
South Shore	2,139	43.48	2,780	56.52	4,919
Edward R. Murrow	1,065	38.73	1,685	61.27	2,750
Clara Barton	2,213	97.83	49	2.17	2,262
Sarah J. Hale	2,357	92.58	189	7.42	2,546
Total Acad./Comp.	59,392	64.75	32,338	35.25	91,730
Westinghouse	2,019	96.51	73	3.49	2,092
Automotive	1,369	81.29	315	18.71	1,684
East New York	1,585	96.06	65	3.94	1,650
Wm. E. Grady	483	22.87	1,629	77.13	2,112
A. Hamilton	1,475	99.59	6	0.41	1,481
Eli Whitney	2,103	87.77	293	12.23	2,396
Wm. H. Maxwell	1,677	95.34	82	4.66	1,759
Total Voc.	10,711	81.30	2,463	18.70	13,174
Ind. Alt.	2,666	84.61	485	15.39	3,151
Special Schools	183	100.00	0	0	183
GRAND TOTAL	72,952	67.40	35,286	32.60	108,238

TABLE III C

ETHNIC DISTRIBUITON IN BROOKLYN HIGH SCHOOLS
OCTOBER 1978

	Minority	%	Other	%	Total
Lafayette	1,309	37.45	2,186	62.55	3,495
Midwood	1,271	44.53	1,583	55.47	2,854
A. Lincoln	1,208	41.16	1,727	58.84	2,935
S.J. Tilden	2,258	76.49	694	23.51	2,952
F.K. Lane	2,700	52.00	2,492	48.00	5,192
J. Madison	1,125	34.35	2,150	65.65	3,275
Brooklyn Tech.	4,171	71.54	1,659	28.46	5,830
T. Jefferson	3,926	99.95	2	0.05	3,928
Prospect Heights	3,165	99.65	11	0.35	3,176
New Utrecht	702	25.07	2,098	74.93	2,800
Boys and Girls	4,660	99.85	7	0.15	4,667
John Jay	3,223	71.69	1,273	28.31	4,496
Erasmus Hall	3,963	97.20	114	2.80	4,077
G.W. Wingate	3,456	99.91	3	0.09	3,459
Eastern District	3,002	99.14	26	0.86	3,028
Bushwick	2,877	97.46	75	2.54	2,952
Bay Ridge	2,257	94.91	121	5.09	2,378
Ft. Hamilton	1,393	37.05	2,367	62.95	3,760
Sheepshead Bay	1,032	33.11	2,085	66.89	3,117
Canarsie	1,074	40.33	1,589	59.67	2,663
F.D. Roosevelt	1,594	40.97	2,297	59.03	3,891
John Dewey	1,328	38.81	2,094	61.19	3,422
South Shore	2,104	45.88	2,482	34.12	4,586
E.R. Murrow	1,179	41.38	1,670	58.62	2,849
C. Barton	2,334	99.36	15	0.64	2,349
S.J. Hale	2,428	93.78	161	6.22	2,589
Total Acad./Comp.	59,739	65.85	30,981	34.15	90,720
G. Westinghouse	2,334	98.15	44	1.85	2,378
Automotive	1,410	81.69	316	18.31	1,726
East New York	1,669	97.89	36	2.11	1,705
Wm. E. Grady	557	25.62	1,617	74.38	2,174
A. Hamilton	1,254	99.60	5	0.40	1,259
E. Whitney	2,100	88.87	263	11.13	2,363
Wm. H. Maxwell	1,761	96.55	63	3.45	1,824
Total Voc.	11,085	82.55	2,344	17.45	13,429
Alternative	2,691	84.46	495	15.54	3,186
Special Schools	148	99.33	1	0.67	149
GRAND TOTAL	73,663	68.53	33,821	31.47	107,484

OCCUPATIONAL EDUCATION SERVICES

The delivery system for occupational education in the borough of Brooklyn consists of programs designed to provide various levels of skills training to high school students, out-of-school youth and adults. Day high school programs are offered in the 26 academic/comprehensive and the seven vocational high schools. Students seeking training not available in their high schools are given the opportunity to receive training in select areas through the Shared Instruction Program or the After School Occupational Skills Program.

DAY HIGH SCHOOLS

In the 1978-79 school year, the thirty-three high schools served a population of 104,149 secondary students. Of the total Brooklyn secondary population (107,484 including alternative and special schools) 44,039 (41%) received occupational training in at least one of the seven occupational clusters (enrollments by cluster may be found in Table IV). 32,859 students received occupational training in the academic/comprehensive high schools. Approximately 22,140 of those in the academic schools were enrolled in the Business and Distributive Education cluster.

Approximately 11,145 students received occupational training in the seven Brooklyn vocational high schools; 7,565 of these were enrolled in programs in the Trade/ Industry cluster.

The twenty-six academic/comprehensive high schools offered training to 35,915 (40%) of the 90,720 students registered. Percentages of students receiving occupational education in the individual schools ranged from 4% to 88%.

VOCATIONAL HIGH SCHOOLS

A total of 13,429 students (grades 9 through 12) or 12.49% of the Brooklyn high school population was enrolled in Brooklyn vocational high schools in 1978. Only one borough, Manhattan, has a larger percentage of it's public secondary school enrollments in the vocational high schools.

COMPREHENSIVE HIGH SCHOOLS

Brooklyn has a number of schools that can be considered comprehensive based on shop facilities. Among these schools are John Dewey, South Shore, Edward R. Murrow, Sheepshead Bay, and Boys' & Girls' High Schools.

While these schools do offer a variety of occupational courses, the facilities necessary for trade and technical programs are essentially underutilized for delivering instruction in these areas. Together, these five schools served only 98 students in trade and technical subjects during fall '78. In addition South Shore and Edward R. Murrow provided occupational instruction to 209 students in the Industrial Arts and Home Economics areas. However, these students often are enrolled in double period classes for one year or less.

The shop facilites of these schools were primarily utilized to provide 5 period per week Industrial Arts and Home Economics instruction to 5,561 students during the fall 1978.

Inadequate staffing, the absence of course standardization and inflexible student programming contributes to the limited utilization of shop facilities in the delivery of trade/industry and technical subjects on an occupational (10 periods per week) level.

The problem of student programming appears to be the largest obstacle in developing quality occupational programs in these comprehensive high schools. Students are not identified and programmed through a logical sequence of related subjects, even when they express an interest in doing so. In addition, few courses are offered for double periods and none are offered for triple periods as they would be in a vocational high school. Flexibility to enable the programming of double and triple periods for vocational students is possible under present State and City requirements for graduation. However, none of the Brooklyn comprehensive high schools has elected to utilize this alternative to develop occupational concentrations in the trade/industry and technical areas. Students are at present not being scheduled for multiple periods of instruction because they are compelled by the school to take subjects in excess of those actually needed for graduation.

There is little doubt that more students could be better served by these facilities with improved staffing, standardized course curricula, sequencing, and student programming which takes advantage of the flexibility allowed by State and City diploma requirements.

Table VI details occupational enrollments by cluster for selected Brooklyn comprehensive high schools.

AFTER SCHOOL OCCUPATIONAL SKILLS PROGRAM (ASOSP)

The After School Occupational Skills Program provides opportunities for "disadvantaged" high school students to acquire entry-level skills in select occupational areas. Instruction is offered to students after the regular school day, on Saturdays, and/or in the summer on an open entry-open exit basis.

The ASOSP served 1,040 Brooklyn students in the summer of 1978 and 1,249 during the fall term. No eligible students were rejected from the program. However, general population students are ineligible for the program, which is limited only to the "disadvantaged".

Schools hosting After School programs in the 1978-79 school year are: Boys' and Girls'; G. Wingate, New Utrecht, S.J. Hale, Wm. H. Maxwell, Canarsie, Lafayette, E. Whitney, Clara Barton, East New York, A. Hamilton, and Automotive High Schools.

With 59% of the borough's high school students not enrolled in any type of occupational education courses, the need for alternative programs such as ASOSP and SIP is considerable.

SHARED INSTRUCTION PROGRAM (SIP)

The Shared Instruction Program provides opportunities for students to receive occupational training in areas which are not taught at their home schools. Students are permitted to travel to and participate in an instructional program offered at another high school during the regular school day.

At present Brooklyn schools are serving students on a shared time basis: A. Hamilton, Automotive, G. Westinghouse, Wm. E. Grady, East New York, Wm. H. Maxwell Vocational High Schools; and Sarah J. Hale, Thomas Jefferson, and F. D. Roosevelt High Schools.

Together these schools served 338 students in the fall of 1978. 301 or 89% of the SIP students attend other Brooklyn high schools. 63 Brooklyn secondary students traveled out of the borough to receive Shared Instruction.

Supervisors of the Shared Instruction Program have indicated the following unmet needs: Radio and TV Repair and computer Technology (specifically in the Southeastern area of the borough), and Food Service, Child Care, Animal Care and Carpentry, boroughwide.

The resources of South Shore and Edward R. Murrow High Schools for use on a shared time basis are being explored for the September 1979 school semester.

TABLE IV

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS*

(by Cluster/School)

October 1978

School	Ag.	Business & Dist. Ed.**	Health	Home Economics	Industrial Arts	Trade/ Industry	Tech.	TOTAL
Lafayette		2,332 (1,330)	88					1,418
Midwood		1,235 (700)	444					1,144
A. Lincoln	64	1,900 (1,080)	53					1,197
S.J. Tilden		1,280 (730)	76					806
F.K. Lane		2,682 (1,530)		239				1,769
J. Madison		784 (450)	75					525
Brooklyn Tech.		—					4422	4,422
T. Jefferson	99	2,267 (1,300)	37	77				1,513
Prospect Hgts.		1,727 (980)	128	67	32			1,207
New Utrecht	35	1,650 (940)	61					1,036
Boys' & Girls'	157	—	135	89				381
John Jay		2,468 (1,410)	22	103	19			1,554
Erasmus Hall		1,377 (790)				51		841
G. Wingate		809 (460)	91		15			566
Eastern District		1,747 (1,000)	56		16			1,072
Bushwick		1,203 (690)	50	46				786
Bay Ridge		1,676 (960)	168					1,128
Fort Hamilton		2,130 (1,210)	75					1,285
Sheepshead Bay		—	75	56				131
Canarsie		1,664 (950)	45					995
F.D. Roosevelt		2,916 (1,660)	108	91				1,859
John Dewey	100	2,013 (1,150)	165	20				1,435
South Shore		1,665 (950)	229	38	100	98		1,415
E.R. Murrow	79	1,081 (620)			71			770
Clara Barton		1,359 (770)	1,308					2,078
S.J. Hale		850 (480)	358			688		1,526
Total Acad/Comp	534	38,815(22,140)	3,847	826	253	837	4422	32,859

TABLE IV (Continued)

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOL*

(by Cluster/School)

October 1978

School	Ag.	Business & Dist. Ed.**	Health	Home Economics	Industrial Arts	Trade/ Industry	Tech.	TOTAL
G. Westinghouse						1,580	639	2,219
Automotive						1,228		1,228
East New York						1,275	294	1,569
W. E. Grady						1,409	189	1,598
A. Hamilton						755	360	1,115
E. Whitney		2,118 (900)	290			1,049		2,239
W. Maxwell		2,437 (870)	38			269		1,177
Total Vocational		4,555 (1,770)	328			7,565	1,482	11,145
GRAND TOTAL	534	43,370(23,910)	4,175	826	253	8,402	5,904	44,004
H. S. Redirection			35					35

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* These figures do not include exploratory couses. See Table

** Most Business & Distributive Education students are enrolled in more than one course. The number in parentheses represents an estimated unduplicated student count.

TABLE V

Percent of Occupational Education Enrollments
in Brooklyn Academic/Comprehensive High Schools

Lafayette	1,418	3,495	40.57
Midwood	1,144	2,854	40.08
A. Lincoln	1,197	2,935	40.78
S.J. Tilden	806	2,952	27.30
F.K. Lane	1,769	5,192	34.07
J. Madison	525	3,275	16.03
Brooklyn Tech.	4,422	5,830	75.85
T. Jefferson	1,513	3,928	38.52
Prospect Hgts.	1,207	3,176	38.00
New Utrecht	1,036	2,800	37.00
Boys' & Girls'	381	4,667	08.16
John Jay	1,554	4,496	34.56
Erasmus Hall	841	4,077	20.63
G. Wingate	566	3,459	16.36
Eastern District	1,072	3,028	35.40
Bushwick	786	2,952	26.63
Bay Ridge	1,128	2,378	47.43
Ft. Hamilton	1,285	3,760	34.18
Sheepshead Bay	131	3,117	04.20
Canarsie	995	2,663	37.36
F.D. Roosevelt	1,859	3,891	47.78
John Dewey	1,435	3,422	41.93
South Shore	1,415	4,586	30.85
E.R. Murrow	770	2,849	27.03
Clara Barton	2,078	2,349	88.46
S.J. Hale	1,526	2,589	58.94
	32,859	90,720	36.22

TABLE VI

OCCUPATIONAL ENROLLMENTS FOR SELECTED BROOKLYN COMPREHENSIVE HIGH SCHOOLS

School	Agriculture	Business	Health	Home Economics	Industrial Arts	Trade/ Industry	Tech.	School TOTAL
John Dewey	100	1,150	165	20				1,435
South Shore		950	229	38	100	98		1,415
Edward R. Murrow	79	620			71			770
Sheepshead Bay		No response	75	56				131
Boys' & Girls	157	No response	135	89				381
	336	2,720	604	203	171	98	—	4,132

TABLE VIII

After School Occupational Skills Program
(ASOSP)
BROOKLYN
1978

COURSE	SCHOOL	JULY	OCT.	TOTAL
Typing	Boys & Girls	76	43	119
	George Wingate	84	—	84
	New Utrecht	26	27	53
	Sarah J. Hale	20	29	49
	William Maxwell	45	40	85
	Canarsie	—	7	7
	Lafayette	—	27	27
	Eli Whitney	—	75	75
Business & Office Machines	George Wingate	38	—	38
	Sarah J. Hale	25	27	52
	Lafayette	—	13	13
Key Punch, Data Processing Computer Programing	William Maxwell	54	47	101
Medical Typing	Clara Barton	—	34	34
Retail Sales	Clara Barton	28	16	44
Bookkeeping, Speedwriting & Stenography	New Utrecht	33	20	53
	Sarah J. Hale	24	32	56
	Lafayette	—	45	45
Travel & Tourism	New Utrecht	21	28	49
	Boys & Girls	58	—	58

TABLE VII (Continued)

COURSE	SCHOOL	JULY	OCT.	TOTAL
Medical Office Practices	William Maxwell	74	43	117
	New Utrecht	26	—	26
	Clara Barton	35	—	35
Medical Lab Technician	Clara Barton	29	24	53
	New Utrecht	—	24	24
Dental Lab Processing	Clara Barton	24	24	48
Nursing Skills	Sarah J. Hale	36	23	59
	Clara Barton	32	27	59
Trade & Industry	East New York	—	23	23
Carpentry/ Woodworking	George Wingate	22	—	22
	Alexander Hamilton	—	27	27
Automative Trade	Automotive	85	110	195
Architectual & Mechanical Drafting	Alexander Hamilton	—	57	57
Cosmetology	Sarah J. Hale	35	60	95
	Eli Whitney	—	20	20
	William Maxwell	70	20	90
Graphic Arts/ in Plant Printing	Canarsie	—	20	20
Photography	New Utrecht	—	34	34
Tailoring & Dressmaking	Boys & Girls	40	13	53
	Canarsie	—	18	18
	William Maxwell	—	20	20
Mass Media/ T.V. Productions	Boys & Girls	—	24	24

TABLE VII (Continued)

COURSE	SCHOOL	JULY	OCT.	TOTAL
Resturant/ Food Trades	Canarsie	—	15	15
Small Engine Repair	East New York	—	20	20
Electrical Trades	East New York	—	50	50
	Alexander Hamilton	—	27	27
Metal & Machine Shop	Alexander Hamilton	—	16	16
	Totals	1040	1249	2289

MATCHING TRAINING RESOURCES TO EMPLOYMENT OPPORTUNITY

AGRICULTURE

There are in Brooklyn 180,000 one and two family dwellings accounting for 18% of the Borough's total housing units. In addition there are a total of 103 hotels, motels, trailer parks, camps and amusement areas in Brooklyn. The Borough claims one of New York's largest an best planned parks, Prospect Park, as well as the Brooklyn Botanical Gardens. The Botanical Gardens have been a training site and employer for students trained in the schools in horticulture and landscaping.

Instructional Programs

534 students were enrolled in agricultural courses at 6 high schools in the fall term of 1978. Animal Care was offered to a total of 124 students at Abraham Lincoln and Boys'and Girls' High Schools. Oceanography was offered to 35 students at New Utrecht High School and 100 students at John Dewey HS.

225 students received training in Ornamental Horticulture at Thomas Jefferson, Boys' and Girls' and Edward R. Murrow High Schools.

Thomas Jefferson High School offers a recreation field maintenance program to 50 students (through VEA funding).

BUSINESS AND DISTRIBUTIVE EDUCATION

BUSINESS EDUCATION

Approximately 28% of Brooklyn workers are employed in the clerical or related fields. It is estimated that 75% of these clerical workers employed in Brooklyn also reside in the Borough.

Business Education Job Opportunities

It is expected that by 1985 Brooklyn will have a stabalized clerical work force of about 230,000 workers. Entry level position openings will arise principally from separations, and will demand higher technical skills, i.e. computer programming and legal secretary training. Demand for less skilled clerical areas such as keypunch operation, bookkeeping and billing machine operation has been declining and will continue to do so as software is made available to small business offices. In the next six years entry level demand for skilled secretaries is expected to experience a 24.7% increase, along with a 16% increase in medical office secretaries and assistants. Job openings in other complex clerical functions are expected to increase by 4% in the next six years.

Instructional Programs

Courses in Business and Distributive Education are usually five periods per week. Students often attend more than one of these subjects per term, and therefore enrollments tend to be duplicative.

The total enrollment for the Business and Distributive Education Cluster (23,910) therefore does not represent the sum of the individual subject enrollments.

General Office and Typing were offered to 20,912 students and Bookkeeping and Accounting to 11,615 students in 25 Brooklyn high schools. Twenty-three of these schools provided courses in Stengraphy to 5,080 students. Data Processing is currently taught to 695 students in 10 schools.

Sarah J. Hale HS provides instruction via the Shared Instruction Program in Speedwriting and Typing to 12 and 20 students respectively. The fact that this represents the total Shared Instruction Program effort in Business and Distributive Education courses in Brooklyn demonstrates the adequacy of offerings in this area by Brooklyn schools.

DISTRIBUTIVE EDUCATION

Retail and wholesale sales workers hold down approximately 60,000 jobs in Brooklyn; and along with related areas of distributive education, i.e. finance, journalism, real estate and recreation, distributive education trade areas employ 200,000 workers in the Borough.

Distributive Education Job Opportunities

Business districts are found throughout the Borough of Brooklyn, the most significant being downtown Brooklyn, where three major department stores are located. Two other districts not traditionally associated with manufacture--Bedford-Stuyvesant and North-South Flatbush are scheduled by community planning corporations for on-going revitalization. Other commercial strips such as Broadway in Bushwick, Utica Ave. in Crown Heights, Fifth Ave. in Park Slope, and Union Street in Red Hook, are in various stages of planned improvements.

It is expected that the critical commercial area of North-South Flatbush Ave., bounded by middle-class neighborhoods will attract businesses to these communities in the 1980's.

Employment opportunities in distributive education will greatly depend on the acquisition of financing for numerous redevelopment projects scheduled by the various Borough and City corporations. The extensive transportation network, easily accessable from surrounding boroughs, makes Brooklyn a very attractive location for wholesale and retail businesses.

Instructional Programs

Programs in Distributive Education are very scarce in Brooklyn. General Merchandising is the only Distributive Education subject offered. Eight schools provide General Merchandising courses to a total of 490 students.

SUMMARY - Business and Distributive Education

With 23,910 students enrolled in Business subjects in Brooklyn high schools, it does appear that the demand for this type of instruction is being met. However, the limited availability of Distributive Education programs is not sufficient in light of the large number of persons currently employed and future job projections in this area.

Programs in Service Station Merchandising, Supermarket Merchandising, Finance and Credit, Insurance and Real Estate will enrich the training currently offered and increase the employability of many graduates of Brooklyn academic and vocational high schools.

HEALTH

Brooklyn has forty-two hospitals with a total of 14,209 beds, and employs approximately 36,600 professional and non-professional workers.[2] Some of New York's finest patient care, research and teaching hospitals are located in the Borough: i.e. Long Island College, Kings County, and Maimonides. In addition to hospitals, there are numerous specialized institutions, such as nursing care facilities for the elderly, and centers for child health care. District health centers offer services such as eye, dental, family planning, and drug and alcohol rehabilation.

Offerings in the Health Career cluster are dispersed among 22 academic/comprehensive and 2 vocational high schools serving a total of 4,210 students in the fall term of the 1978-79 school year.

Introduction to Health Careers was provided to 1,860 students at 18 Brooklyn high schools. In six of these schools Introduction to Health Careers was the only course offered of the eleven listed in the health cluster.

The 2,350 students who were enrolled in health courses other than "Introduction to Health" were distributed as follows.

Med. or Bio. Lab Tech	740
Health Assistant	438
Medical Lab. Assistant	347
Medical Office Practices	129
Practical Nursing	131
All Other Health Program	565
	2,350

Clara Barton HS served 1,308 students in health courses. One hundred thirty eight (138) of these students were enrolled in the Borough's only dental health programs.

SUMMARY - Health

Brooklyn high schools offer a wide variety of courses in the Health Careers cluster. The two courses that are not offered by any Brooklyn school are Dental Office Practices and Health Careers for the Handicapped. The distribution of students in the many health training courses in addition to Practical Nursing is wise in light of the dim employment outlook for Practical Nursing for high school graduates.

The six schools that offer only Introduction to Health Careers need to make every effort to provide interested students with the opportunity to receive additional training in the health area via the Shared Instruction and After School Occupational Skills Programs. Without this type of commitment, the value of offering Introduction to Health Career alone is questionable.

The need to offer advanced training to interested students could be met by a modernized facility and expanded instructional program at Clara Barton High School and may require the concentration of Health courses at yet another Brooklyn high school.

HOME ECONOMICS

A total of 17 occupational programs within the Home Economics cluster served 826 students in the fall term of the 1978-79 school year. Eight schools offered occupational education in Food Services to 487 students. Occupational courses in Clothing Services were provided for 222 students in six schools while Child Care Services were made available to 117 students in three high schools.

In the Fall term of the 1978-79 school year Home Economics programs provided (for 5 pds/week) instruction to 3,817 students, utilizing facilities at 18 Brooklyn high schools (see tableVIII.) These programs are not defined as occupational because they do not meet for a minimum of 10 pds/week.

It would appear from the limited offerings in the Home Economics cluster and the lack of instruction in similar titles in the trade and industry subjects that most Brooklyn students seeking occupational training in these areas would be compelled to travel to schools outside of the Borough.

Facilities are available in a number of Brooklyn schools to support expanded programs in Food Services, Clothing Services and Child Care Services.

INDUSTRIAL ARTS

Industrial Arts facilities are available in Brooklyn high schools for a variety of course offerings including : electricity/electronics, graphic arts, mechanical drafting, metalworking, plastics, transportation, woodworking, driver education and photography.

While these facilities are found in many schools, most programs meet only for five periods per week. A handful meet the criteria for "occupational", defined as a course offered for 10 periods per week or more include:

Prospect Heights - Drafting
John Jay - Woodworking
George Wingate - Graphic Arts
Eastern District - Photography
South Shore - Transportation and Woodworking
Edward R. Murrow - Communications

Together these schools served 253 students in the fall term of 1978.

Industrial Arts 5 Periods/Week

In addition to the 10 pd/week "occupational" offerings, Industrial Arts shops in Brooklyn schools provide instruction in a variety of subject areas for 5 pds/week. In the fall 1978-79 school year, 12,417 Brooklyn students were enrolled in 5 pd/week programs in Industrial Arts (see table IX) While the principal purpose of these Industrial Arts programs is not to provide entry level skills, it must be noted that many are providing such skills to students who elect to take 3 or 4 terms of instruction in a subject area. In addition, a few of these 5 pd/week courses serve as prerequisites for more intensive training than is offered 10 pd/week.

Industrial Arts, JHS

There are a total of 317 Industrial Arts facilities in 61 Brooklyn intermediate and junior high schools. As of March 1978 76 of these facilities were not in use.

All the shop facilities in the intermediate and junior high schools need to be effectively utilized to provide experiences and disseminate information regarding possible future occupational training on the high school level. While these facilities are sometimes utilized in this role, much more could be achieved if centralized support were given.

The study of feeder patterns, the upgrading of select facilities, the co-ed programming of all JHS Industrial Arts programs and the preparation of informative career and educational materials for distribution to interested sutdents in appropriate subject areas are needed steps to improve the Junior High School phase of the K-12 delivery system of occupational education.

INTERMEDIATE & JUNIOR HIGH SCHOOL INDUSTRIAL ARTS FACILITIES IN BROOKLYN

Metalworking	60	Career Guidance	1
Graphic Arts	60	Drafting	2
Ceramics	53	General Shop	2
Electricity/Electronics	45	Plastics	4
Crafts	21	Photography	1
Woodworking	58		

TOTAL # of Facilities in 61 Schools	307
Number of facilities not in use as of 3/78	76

Driver Education

Driver Education programs provide students with a skill that is often a prerequisite for employment, especially in the service occupations.

In spite of the value of driver education, the program in our city's schools has steadily declined since 1975 when funding by the Federal Highway Safety Agency sources, was terminated. At present much of the equipment (which has an estimated value of one million dollars of federal funds) is not in use.

The decline of the city-wide driver education effort is reflected in the decreased driver education enrollments in Brooklyn high schools from 1974 to 1978.

BROOKLYN DRIVER EDUCATION ENROLLMENTS
Fall 1974 vs Fall 1978

	Enrollment Fall 1974	Enrollment Fall 1978
Lafayette	110	0
South Shore	320	64
Boys' & Girls'	64	131
Wingate	36	0
Thomas Jefferson	13	0
Grady	48	0
Brooklyn Automotive	105	0
	696	195

At present, Lafayette High School has a sixteen position driver simulation tractor that is not in use. The value of the equipment is in excess of $60,000 and could be utilized.

Instructor costs could be reduced by offering the 3-6 hours of in-car instruction with teachers paid on a per session basis. This would hold down teacher costs, while providing services to those students for whom a driver's license is a condition of employment.

TRADE/INDUSTRY

Brooklyn has approximately 5,000 manufacturing establishments, employing approximately 120,000 production workers. 2.1% or 18,000 Brooklyn workers are employed by the public utilities, and 2.1% are employed in communications. Brooklyn has several major industrial areas: Greenpoint, Williamsburg, Newtown Creed, Navy Yard - the largest and accounts for more than one-third of the employed blue-collar workers in the Borough. Major employers are Amstar (sugar refining), Pfizer (pharmeceuticals), Eaton Allen (office supplies), and the Brooklyn Navy Yard. In each of the other industrial areas - Downtown-Gowanus-Red Hook, Bush Terminal Sunset Park, East New York-Flatlands, and the Atlantic Avenue Corridor, manufacturing has experienced decline in the past twenty years. As a result many commissions and industrial redevelopment corporations have been established throughout the Borough, with the intention of attracting new industry.

Instructional Programs

Brooklyn high schools offered instruction in trade/industry subjects to 8,402 students during the fall 1978 school term. All but 837 of these students attended one of the borough's seven vocational high schools. Distribution of trade/industry students in Brooklyn high schools is as follows:

George Westinghouse	1,580
Brooklyn Automotive	1,228
East New York	1,275
William Grady	1,409
Alexander Hamilton	755

Eli Whitney	1,049
William H. Maxwell	269
Sarah J. Hale	688
South Shore	98
Erasmus Hall	51
TOTAL	8,402

Thirty-seven (37) of the students who received trade/industry instruction in Brooklyn schools came from outside the borough via the Shared Instruction Program. Twenty-six of the 46 subjects listed in the trade/industry cluster are offered in at least one Brooklyn school.

While a good variety of trade/industry courses are offered in Brooklyn it must be noted that most are offered only in the vocational high schools and that all but one of these schools is located in the northern portion of the borough. Students attending academic/comprehensive high schools in other parts of the borough have in fact little chance to receive instruction in the trade/industry subjects.

In order to provide opportunity to all students attending Brooklyn high schools it is necessary to expand and update existing programs, effectively utilize the potential of the Shared Instruction Program and fulfill the intent of the borough comprehensive schools. (See Comprehensive High Schools.)

TECHNICAL PROGRAMS

Five thousand nine hundred four (5,904) students received instruction in technical subjects in Brooklyn high schools. 4,422 of these students were enrolled in Brooklyn Technical High School; 11 of the 15 subjects listed in the Technical cluster were offered in at least one Brooklyn school. Nine of these courses were offered in Brooklyn Technical High School.

TABLE VIII

HOME ECONOMICS ENROLLMENTS in the BOROUGH of BROOKLYN

5 Periods per Week

COURSE OFFERINGS		LAFAYETTE	MIDWOOD	A. LINCOLN	SAMUEL J. TILDEN	F. K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	S. J. HALE	
Clothing	1	69		27	48	39			84	30		85			66		44			28	34	65	80	85				
	2					19			15			35					23							45				
	3					31			17			40												18				
Total Clothing		69		27	48	89			116	30	63	160			66		67			28	34	65	80	148				1090
Foods	1	98	36	46	59	88			38	56		85					50			28	177	50	54	77				
	2					59				24		48					40			28	64			25				
Total Foods		98	36	46	59	147			38	80	185	133					90			56	241	50	54	102				1415
Child Care	1		15		28				34									47				32						
	2																											
Total Child Care			15		28	112			34									47				32	79					347
Other:																												
Family Living	1								19			105					16											
	2											18																
Total Family Living									19			123					16					53						211
Needle Crafts												28																28
Home Nursing	1								51		35								77			70						
	2																											
Total Home Nursing									51		35				83				77			70						316
Bach. Survival			46																	56								102
Health Care																												
Elem. Homemaking																								26				26
Consumer Education																												
Home Economics Survey												87										74						161
Glamour															33													33
Career Skills									88																			88
TOTAL HOME ECONOMICS 5Pd/Wk.		167	97	73	135	848			346	110	283	531			182		173	47	77	140	275	344	213	276				3,817

TABLE IX

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of BROOKLYN

(5 Periods per Week)

COURSE OFFERINGS		LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.*	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE	
Aerospace	1																											
	2																											
Total Aerospace																												
Drafting	1	34	70	31		148			40	69	26	61	31	50	33			68	25	34	21	108	48					
	2		24							31				28							30		12	21				
	3		14							27																		
	4																											
Total Drafting		34	108	31		148			40	127	26	61	31	78	33			68	25	34	51	108	60	21				1,084
Driver Education											131												64					195
Electricity/Electronics	1					32		28	52	67		50						29		82	72		57	78				
	2					48				20											24		20					
	3									29														21				
	4									32																		
Total Electricity/Elec.						80		28	52	148		50						29		82	96		77	99				741
Graphic Arts	1	54	24			85					94			13	22				84	59	15	56	16	50		130		
	2					19													25									
	3					27																		27				
	4																							12				
Total Graphic Arts		54	24			131					94			13	22				109	59	15	56	16	89		130		812
Industrial Careers																												
Industrial Ceramics	1				81				40										56			165						
	2																											
Total Industrial Ceramics					81				40										56			165	86					428
Jewelry	1			51			50			61		51		136	37			86	55	31	83	167	61	82				
	2									26																		
Total Jewelry				51			50			87		51		136	37			86	55	31	83	167	61	82				977

TABLE IX (Continued)

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of BROOKLYN

(5 Periods per Week)

COURSE OFFERINGS		LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.*	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MORROW	CLARA BARTON	SARAH J. HALE	
Marine Technology	1																											
	2																											
Total Marine Technology																												
Metal Working	1	115	40	77	30	25			40	23	96	66				56			107	56	60	50		68				
	2		19			48			11		27									16		27		24				
	3										22																	
	4																											
Total Metal		115	59	77	30	73			51	23	145	66				56			107	72	60	77		92				1,103
Multi-Media																												
Photography	1												114		61						32	64		80	177			
	2														17							28			58			
Total Photography													114		78						32	92		80	235			631
Plastics	1												24						57									
	2																								94			
Total Plastics													24						57						94			175
Transportation	1			95		44	122					26	127		111				151	56	30		152	142	106			
	2					45	26						16							56	90			66				
	3																											
	4																											
Total Transportation				95		89	148					26	143		111				151	112	120		152	208	106			1,461
Small Engine Repair	1																											
	2																											
Total Small Engine Rpr.																												
Woodworking	1	147	80	102	79	101			79		155	81	189	88	101	55			249	56	158	182	151	133				
	2		32		18	58			17		57		41		70					56	28	52		33	33			
	3	32				25					23		40	14							24							
	4																											
Total Woodworking		179	112	102	97	184	51		96		235	81	270	102	171	55			249	112	210	234	151	166	33			2,890

TABLE IX (Continued)

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of BROOKLYN

(5 Periods per Week)

COURSE OFFERINGS	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE
Other:																										
Plant Ecology								19																		
Exploratory IA											86								125							
Home Mechanics	28					53						73						66	28							
COOP Printing (Alt. Wk)																			28							154
Electricity/Metal																										
Environmental Design				33																						
Stagecraft									24																	
Social Living									64																	
Machine Shop												40														
Government Machine Shop												12														
Television												23														
Small Engines						51																				
Repairs																										
Flight/Ground Trg. 1														59												
2														25												
3														11												
Total Flight/Ground Trg.														92												
Commercial Art																										
Auto Body					79																	46				
Auto Electricity																										

TABLE IX (Continued)

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of BROOKLYN

(5 Periods per Week)

COURSE OFFERINGS	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	P.K. LANE	J. MADISON	BROOKLYN TECH.*	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE	
Engraving																								44			
Industrial Arts Careers											34																
Bus Driver Training											13																
Urban Planning 1											52																
3											165																
5											52																
Total Urban Planning																											
Communications Skills																								341			
Total Other	28			33	79	104		19	88		402	148		187				66	181		46			385		154	1,920
TOTAL 5 PDS/WK INDUSTRIAL ARTS	410	303	356	241	784	353		234	203	742	826	861	133	774	203			813	722	628	694	799	910	1144		284	12,417

* Counted with technical enrollments.

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X

BROOKLYN

	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAYRIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE
AGRICULTURE																				
9th Year Explor. or Pre-Voc.																				
Agric. Prod./Farm Mgt.																				
Animal Care			64								60									
Conservation																				
Oceanography																				
Ornamental Horticulture										35										
Other								49			97									
TOTALS			64					50 99		35	157									
BUSINESS & DISTRIBUTIVE ED.																				
Business & Office Courses																				
Exploratory				39	385			384				101	123							
Pre-Vocational (Required)	502	246	266			88		35	355	392		493			422			150		189
Bookkeeping & Accounting	664	242	1031	511	1514	317		779	324	204		328	165	39	550	690	93	938		316
Data Processing	75			86				33				72		102						123
Gen. Office/Clerical/Typewriting	788	633	471	527	864	351		1233	899	816		1323	1081	607	682	476	1322	841		860
Information Communications																				
Materials Supporting (Transporting, Storing, Recording)																				
Stenographic, Secretarial	237	114		131	304			135	149	238		252	131	61	52	37	261	201		146
Supervisory & Administrative Mgt.	28																			30
Pre-Technical																				
Office Related Technology																				
Other																				
TOTAL	2294	1235	1768	1294	3067	756		2599	1727	1650		2569	1500	809	1706	1203	1676	2130		1664
	(1310)	(700)	(1010)	(750)	(1910)	(430)		1615	(980)	(940)		(1510)	(910)	(460)	(970)	(690)	(960)	(1210)		(950)
Distributive Ed. Courses																				
Exploratory																				
Pre-Vocational (Required)																				
Advertising Services																				
Apparel & Accessories																				
Auto/Petroleum/Serv. Station Mgt.																				
Finance & Credit																				
Food Distrib./Supermarket Mgt.																				
Gen. Merch./Gen. Sales																				
Hardware, Materials, Supplies	38		132	25		28		37							41					

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

BUSINESS & DISTRIBUTIVE ED. (Cont'd)	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	P.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAYRIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE
Distributive Ed. Courses (Cont'd)																				
Home Furnishings (Sales)																				
Hotel & Lodgings																				
Insurance																				
Real Estate																				
Recreation & Tourism																				
Transportation & Services																				
Pre-Technical																				
Other																				
TOTAL	38		132	25		28		52							41					
	(20)		(70)	(20)		(20)		(30)							(30)					
TOTAL BUSINESS & DISTRIBUTIVE ED.	2332	1235	1900	1319	3067	784		2651	1727	1650		2569	1500	809	1747	1203	1676	2130		1664
	(1330)	(700)	(1080)	(770)	(1910)	(450)		(1680)	(980)	(940)		(1510)	(910)	(460)	(1000)	(690)	(960)	(1210)		(950)
HEALTH CAREERS																				
9th Year or Exploratory																				
Intro. to Health Careers	28	79	20	25				37			135			91	40	50	67	75		
Med. or Bio. Lab Tech	60	35		51		75			128	61							75		75	45
Dental Assistant																				
Dental Lab Assistant																				
Dental Office Practices																				
Health Assistant/Health Service																	26			
Health Careers for the Handicapped																				
Medical Lab Assistant																				
Medical Office Practices															16					
Nurse Assistant																				
Practical Nurse																				
Other		330	33									22								
TOTAL	88	444	53	76		75		37	128	61	135	22		91	56	50	168	75	75	45
HOME ECONOMICS																				
HECE Food Services					151			40	67		20	103				23			56	
HECE Clothing Services					88						21					23				
HECE Child Care Services								37			48									
Other																				
TOTAL					239			77	67		89	103				46			56	

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CARNASIE
INDUSTRIAL ARTS																				
Aerospace																				
Drafting									32											
Driver Education																				
Electricity/Electronics																				
Graphic Arts														15						
Industrial Careers																				
Industrial Ceramics																				
Jewelry																				
Marine Technology																				
Metalworking																				
Multi-Media																				
Photography															16					
Plastics																				
Transportation																				
Small Engine Repair																				
Woodworking												19								
Other									32			19		15	16					
TOTAL																				
TECHNICAL																				
9th Year Exploratory or Pre-Voc.							1349													
Aviation: Aeronautics Tech.							250													
Draft'g/Drw'g: Architectural							180													
Draft'g/Draw'g: Elec. or Mech.							134													
Chemical Tech (Indus. Chem)																				
Civil Tech (Struc. Des.)							387													
Elect'y/onics: Communications																				
Elect'y/onics: Computer Tech.																				
Elect'y/onics: Elect'y/onics							799													
Fashion: Fashion Design Tech.																				
Industrial Design							146													
Instrumentation Design																				
Machine Design							79													
Pre-Technical Engineering																				
Other							2447													
TOTAL							5771													

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

TRADE/INDUSTRY	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAYRIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE
9th Year Exploratory or Pre-Voc.																				
Auto.: Automotive Body																				
Auto.: Automotive Mech.																				
Auto.: Service Stat. Attend't																				
Aviation: Aviation Mechanics																				
Aviation: Ground Suppt. Veh. Maint.																				
Bldg/Constr: Cabinet Making																				
Bldg/Constr: Carpentry																				
Bldg/Constr: Plumbing																				
Bldg/Constr: Woodworking																				
Clock and Watch Mech.																				
Commercial Art													27							
Commercial Photography																				
Cosmetology																				
Dental Lab Processing																				
Elect'y/onics: Elec. Instal & Prac.																				
Elect'y/onics: Radio Electr. Mech.																				
Elect'y/onics: Radio & TV Mech.																				
Elect'y/onics: TV Broadcasting																				
Electro-Mech: Appl/Equip. Rpr.																				
Electro-Mech: Bus. Machine Rpr.																				
Envir. Contr.: Automatic Heating																				
Envir. Contr.: Climate Control																				
Envir. Contr.: Comm/Domest. Refrig.																				
Fashion: Costume Des/Illus/Drap'g																				
Fashion: Fashion Design (Voc)																				
Fashion: Fashion Merchandising													24							
Fashion: Fur Mfr.																				
Fashion: Men's Clothing Mfr.																				
Fashion: Textile Des.& Weaving																				
Fashion: Women's Apparel Mfr.																				
Food: Baking																				
Food: Cafeteria & Catering																				
Food: Meat Merchandising																				

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

TRADE/INDUSTRY (Cont'd)	LAFAYETTE	MIDWOOD	A. LINCOLN	S.J. TILDEN	F.K. LANE	J. MADISON	BROOKLYN TECH.	T. JEFFERSON	PROSPECT HGTS.	NEW UTRECHT	BOYS' & GIRLS'	JOHN JAY	ERASMUS HALL	G. WINGATE	EASTERN DIST.	BUSHWICK	BAY RIDGE	FT. HAMILTON	SHEEPSHEAD BAY	CANARSIE
Graphic Arts & Communication																				
Interior Decoration																				
Jewelry Design & Mfr.																				
Mach/Metal: Machine Shop Prac.																				
Mach/Metal: Sheet Metal																				
Marine Occupations																				
Media/TV Production																				
Optical Mechanics																				
Printing Trades																				
Sculpture & Stone Carving																				
Upholstery																				
Other																				
TOTAL													51							
GRAND TOTALS	1418	1144	1197	846	2149	525	5771	1893	1207	1036	381	1654	961	566	1072	786	1128	1285	131	995

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE	G. WESTINGHOUSE	AUTOMOTIVE	EAST NEW YORK	W.E. GRADY	A. HAMILTON	E. WHITNEY	N.H. MAXWELL	AUX. SERVICES	PACIFIC HS	CITY-AS-SCHOOL	HS REDIRECTION	P.M. H.S.	
AGRICULTURE																			
9th Year Explor. or Pre-Voc.																			
Agric. Prod./Farm Mgt.																			
Animal Care																			124
Conservation																			
Oceanography		100																	135
Ornamental Horticulture				79															225
Other																			50
TOTALS		100		79															534
BUSINESS & DISTRIBUTIVE ED.																			
Business & Office Courses																			
Exploratory	148					539							125						1844
Pre-Vocational (Required)	714			57	143								77						4129
Bookkeeping & Accounting	490	277	702	175	62	128						377	699						11615
Data Processing	88				18	79						19							695
Gen. Office/Clerical/Typewriting	1377	1340	726	618	842	439						899	897						20912
Information Communications		75																	75
Materials Supporting (Transporting, Storing, Recording)																			
Stenographic, Secretarial	247	321	237	231	294	115						522	664						5080
Supervisory & Administrative Mgt.																			58
Pre-Technical																			
Office Related Technology												261							261
Other																			
TOTAL	3064	2013	1665	1081	1359	1300						2078	2462						44669
	(1810)	(1150)	(950)	(620)	(770)	(970)													
Distributive Ed. Courses												40							55
Exploratory																			
Pre-Vocational (Required)																			
Advertising Services																			
Apparel & Accessories																			
Auto/Petroleum/Serv. Station Mgt.																			
Finance & Credit																			
Food Distrib./Supermarket Mgt.																			
Gen. Merch./Gen. Sales						89							100						490
Hardware, Materials, Supplies																			

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE	G. WESTINGHOUSE	AUTOMOTIVE	EAST NEW YORK	W.E. GRADY	A. HAMILTON	E. WHITNEY	W.H. MAXWELL	AUX. SERVICES	PACIFIC HS	CITY-AS-SCHOOL	HS REDIRECTION	P.M. H.S.	
BUSINESS & DISTRIBUTIVE ED. (Cont'd)																			
Distributive Ed. Courses (Cont'd)																			
Home Furnishings (Sales)						89						40	100						545
Hotel & Lodgings						(50)													(240)
Insurance																			
Real Estate																			
Recreation & Tourism																			
Transportation & Services																			
Pre-Technical																			
Other																			
TOTAL	3064	2013	1665	1081	1359	1389						2118	2562						45,214
TOTAL BUSINESS & DISTRIBUTIVE ED.	(1810)	(1150)	(950)	(620)	(770)	(1020)						(900)	(1000)						(25,750)
HEALTH CAREERS																			
9th Year or Exploratory												65							65
Intro. to Health Careers	75	99	113		622	191						78					35		1,860
Med. or Bio. Lab Tech			74			61													740
Dental Assistant					89														89
Dental Lab Assistant					49														49
Dental Office Practices																			
Health Assistant/Health Service		66			103	106						137							438
Health Careers for the Handicapped																			
Medical Lab Assistant	33				314														347
Medical Office Practices												75	38						129
Nurse Assistant			42																42
Practical Nurse					131														131
Other																			385
TOTAL	108	165	229		1308	358						355	38				35		4,275
HOME ECONOMICS																			
HEOE Food Services	27																		487
HECE Clothing Services	32	20	38																222
HEOE Child Care Services	32																		117
Other																			
TOTAL	91	20	38																826

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MURROW	CLARA BARTON	SARAH J. HALE	G. WESTINGHOUSE	AUTOMOTIVE	EAST NEW YORK	W.E. GRADY	A. HAMILTON	E. WHITNEY	W.H. MAXWELL	AUX. SERVICES	PACIFIC HS	CITY-AS-SCHOOL	HS REDIRECTION	P.M. H.S.	
INDUSTRIAL ARTS																			
Aerospace																			32
Drafting																			
Driver Education																			15
Electricity/Electronics																			
Graphic Arts																			
Industrial Careers																			
Industrial Ceramics																			
Jewelry																			
Marine Technology																			
Metalworking																			
Multi-Media																			16
Photography																			
Plastics																			58
Transportation			58																
Small Engine Repair																			61
Woodworking			42																71
Other				71															253
TOTAL			100	71															
TECHNICAL																			
9th Year Exploratory or Pre-Voc.										201									1550
Aviation: Aeronautics Tech.																			250
Draft'g/Drw'g: Architectural									34		180								394
Draft'g/Draw'g: Elec. or Mech.							164		61		93								452
Chemical Tech (Indus. Chem)																			387
Civil Tech (Struc. Des.)																			56
Elect'y/onics: Communications							56												289
Elect'y/onics: Computer Tech.							100			189									1118
Elect'y/onics: Elect'y/onics							319												
Fashion: Fashion Design Tech.																			146
Industrial Design																			
Instrumentation Design									97										176
Machine Design																			
Pre-Technical Engineering									102		87								2636
Other							639		294	390	360								7454
TOTAL																			

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

TRADE/INDUSTRY	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E. R. MURROW	CLARA BARTON	SARAH J. HALE	G. WESTINGHOUSE	AUTOMOTIVE	EAST NEW YORK	W. E. GRADY	A. HAMILTON	E. WHITNEY	W. H. MAXWELL	ADM. SERVICES	PACIFIC HS	CITY-AS-SCHOOL	HS REDIRECTION	P.M. H.S.	
9th Year Exploratory or Pre-Voc.							98	419		212	112		422						1263
Auto.: Automotive Body								227		34									261
Auto.: Automotive Mech.			60					1001		312									1373
Auto.: Service Stat. Attend't																			
Aviation: Aviation Mechanics									483										483
Aviation: Ground Suppt. Veh. Maint.																			
Bldg/Constr: Cabinet Making							109			146		131							386
Bldg/Constr: Carpentry							15		95		247								357
Bldg/Constr: Plumbing																			
Bldg/Constr: Woodworking			38						154										192
Clock and Watch Mech.							135												135
Commercial Art																			27
Commercial Photography																			
Cosmetology						688						233	152						1073
Dental Lab Processing							201												201
Elect'y/onics: Elec. Instal & Prac.							267		168	385	194	141							1155
Elect'y/onics: Radio Electr. Mech.																			
Elect'y/onics: Radio & TV Mech.							437		231	236		95							999
Elect'y/onics: TV Broadcasting																			
Electro-Mech: Appl/Equip. Rpr.												108							108
Electro-Mech: Bus. Machine Rpr.							80				34	26							140
Envir. Contr.: Automatic Heating																			
Envir. Contr.: Climate Control										203									203
Envir. Contr.: Comm/Domest. Refrig.																			
Fashion: Costume Des/Illus/Drap'g																			
Fashion: Fashion Design (Voc)												146							146
Fashion: Fashion Merchandising																			24
Fashion: Fur Mfr.																			
Fashion: Men's Clothing Mfr.																			
Fashion: Textile Des.& Weaving																			
Fashion: Women's Apparel Mfr.													117						117
Food: Baking																			
Food: Cafeteria & Catering																			
Food: Meat Merchandising																			

OCCUPATIONAL ENROLLMENTS IN BROOKLYN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE X (Continued)

BROOKLYN

TRADE/INDUSTRY (Cont'd)	F.D. ROOSEVELT	JOHN DEWEY	SOUTH SHORE	E.R. MORROW	CLARA BARTON	SARAH J. HALE	G. WESTINGHOUSE	AUTOMOTIVE	EAST NEW YORK	W.E. GRADY	A. HAMILTON	E. WHITNEY	W.H. MAXWELL	AUX. SERVICES	PACIFIC HS	CITY-AS-SCHOOL	HS REDIRECTION	P.M. H.S.	
Graphic Arts & Communication												74							74
Interior Decoration							146												146
Jewelry Design & Mfr.							32			93	126								251
Mach/Metal: Machine Shop Prac.									144		78								222
Mach/Metal: Sheet Metal																			
Marine Occupations																			
Media/TV Production							158												158
Optical Mechanics											76	37							113
Printing Trades																			
Sculpture & Stone Carving												58							58
Upholstery																			
Other			98			688	1678	1647	1275	1621	867	1049	691						9,665
TOTAL																			
GRAND TOTALS	2009	1435	1415	770	2078	2066	2317	1647	1569	2011	1227	2304	1729				35		48,757

FOOTNOTES

1. A comprehensive survey of Brooklyn industrial redevelopment can be found in the report prepared by the Kings County OEDP Committee, titled: Kings County Overall Economic Development Program, 1977.

2. This number includes those hospitals which are not considered available to the general public, such as: hospitals operated by the state and federal government, hospitals restricted to membership, as well as hospitals for the chronically afflicted.

REFERENCES AND SOURCES OF INFORMATION

- Kings County Overall Economic Development Program
- School Profiles; New York City Board of Education 1976-1977
- Form 11; Analysis of School Organization Register by Courses and Terms; CCOE, New York Board of Education
- Annual School Census - October, 1976; October, 1977
- Pupil Ethnic Composition Report; Office of Educational Statistics, New York City Board of Education
- Transportation Information; New York City Transit Authority

Information was supplied through the cooperation of the following Offices:

After School Occupational Skills Program

Shared Instruction Program

Home Economics

Industrial Arts

Trade and Technical

Health Careers

Business and Distributive Education